

CLAIMS

*Spec 1* 1. A method of transfecting dendritic cells comprising:  
2 providing dendritic cells;  
3 providing a transfection agent comprising a polynucleotide and  
4 microparticles, said microparticles comprised of biodegradable polymer and cationic  
5 detergent; and  
6 incubating the dendritic cells and transfection agent for a time sufficient to  
7 transfet the dendritic cells with the polynucleotide.

1 2. The method of claim 1, wherein the dendritic cells originate from bone  
2 marrow.

1 3. The method of claim 1, wherein the dendritic cells originate from blood.

1 2 4. The method of claim 1, wherein the dendritic cells originate from a  
vertebrate subject.

*Spec 2* 1 2 5. The method of claim 1, wherein the dendritic cells are from a human  
subject.

1 6. The method of claim 1, wherein the cationic detergent comprises CTAB.

1 2 7. The method of claim 1, wherein the cationic detergent comprises  
cetrimide.

1 8. The method of claim 1, wherein the polymer is a poly( $\alpha$ -hydroxy acid).

1 9. The method of claim 1, wherein the polymer is a poly(lactide).

1 2 10. The method of claim 1, wherein the polymer is a copolymer of D,L-  
lactide and glycolide or glycolic acid.

1        11. The method of claim 1, wherein the polymer is a poly(D,L-lactide-co-  
2        glycolide).

1        12. The method of claim 1, wherein the polymer is a copolymer of D,L-  
2        lactide and caprolactone.

1        13. The method of claim 1, wherein the dendritic cells are cultured for about  
2        5 days prior to transfection.

1 *Ref 03*    14. The method of claim 1, wherein the dendritic cells are cultured for about  
2        10 days prior to transfection.

1        15. The method of claim 1, wherein the dendritic cells and transfecting agent  
2        are incubated for about 24 hours.

1 *Ref 04*    16. The method of claim 1, wherein polynucleotide is provided in the form  
2        of a plasmid.

1        17. The method of claim 1, wherein said polynucleotide encodes an antigen  
2        associated with a virus or a tumor.

1        18. The method of claim 17, wherein the antigen is associated with HIV,  
2        meningitis A, meningitis B, or meningitis C.

1        19. A method for producing an immune response comprising administering,  
2        to a vertebrate subject in need thereof, an effective amount of dendritic cells  
3        produced by the method of claim 17.

1        20. The method according to claim 19, in which the dendritic cells originate from  
2        the vertebrate subject.

1           21. The method according to claim 19, in which the dendritic cells originate  
2 from a healthy vertebrate subject MHC-matched to the vertebrate subject.

1           22. The method according to claim 19, in which the dendritic cells are  
2 administered parenterally.

1           23. The method according to claim 19, in which the dendritic cells are  
2 administered by direct injection into affected tissue.

1           24. A method for producing an immune response in a vertebrate subject in  
2 need thereof comprising:

3           providing T cells;

4           activating said T cells by subjecting them to the dendritic cells produced by  
5 the method of claim 17; and

6           administering said activated T cells to said subject.

1           25. The method according to claim 24, in which the dendritic cells and T  
2 cells originate from the vertebrate subject.

1           26. The method according to claim 24, in which the dendritic cells and T  
2 cells originate from a healthy vertebrate subject MHC-matched to the vertebrate  
3 subject.

1           27. The method according to claim 24, in which the T cells are administered  
2 parenterally.

1           28. The method according to claim 24, in which the T cells are administered  
2 by direct injection into affected tissue.

1           29. Antigen presenting dendritic cells made by the method of claim 17.

1 *Date 05/* 30. The method according to claim 1, where said transfection agent has a diameter on the order of 1 micron.

1 31. The method according to claim 1, wherein said transfection agent  
2 contains on the order of 1% w/w polynucleotide.

*Abdul*